

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An implantable medical endoprosthesis delivery system, comprising:
a catheter; and
a sheath at least partially surrounding the catheter, the sheath having a proximal end, a distal end, and at least one orifice between the proximal and distal ends of the sheath; and
a self-expanding implantable medical endoprosthesis disposed between the catheter and the sheath,
wherein ~~the catheter and the sheath are configured so that an implantable medical endoprosthesis can be disposed therebetween with the~~ at least one orifice in the sheath ~~being is~~ between the distal end of the sheath and a location in the sheath adjacent a proximal end of the self-expanding implantable medical endoprosthesis.
2. (Currently Amended) The system of claim 1, wherein the at least one orifice comprises a plurality of orifices, at least some of the orifices being between the distal end of the sheath and the location in the sheath adjacent the proximal end of the self-expanding implantable medical endoprosthesis.
3. (Currently Amended) The system of claim 1, wherein the self-expanding implantable medical endoprosthesis ~~capable of being disposed between the catheter and the sheath~~ is a stent or a stent-graft, the self-expanding implantable medical endoprosthesis has at least one strut with

a maximum dimension, and a maximum dimension of the at least one orifice is smaller than the maximum dimension of the at least one strut.

4. (Original) The system of claim 1, wherein a maximum dimension of the at least one orifice is about 0.02 inch or less.

5. (Currently Amended) The system of claim 1, wherein the sheath includes multiple layers with at least one layer being a support material, the self-expanding implantable medical endoprosthesis ~~capable of being disposed between the catheter and the sheath~~ is a stent or a stent-graft, the self-expanding implantable medical endoprosthesis has at least one strut with a maximum dimension, and a maximum dimension of the at least one orifice in the sheath is greater than the maximum dimension of the at least one strut.

6. (Canceled)

7. (Canceled)

8. (Original) The system of claim 1, wherein the at least one orifice is at most about 100 millimeters from the distal end of the sheath.

9. (Original) The system of claim 8, wherein the at least one orifice is at least about one millimeter from the distal end of the sheath.

10. (Currently Amended) An implantable medical endoprosthesis delivery system, comprising:

a catheter; and

a sheath at least partially surrounding the catheter, the sheath having a proximal end, a distal end, and at least one orifice that is at most about 100 millimeters from the distal end of the sheath; and

~~wherein the catheter and the sheath are configured so that an~~ a self-expanding implantable medical endoprosthesis ~~can be disposed therebetween~~ between the catheter and the sheath.

11. (Currently Amended) The system of claim 10, wherein the system is configured so that, ~~when the implantable medical endoprosthesis is disposed between the catheter and the sheath,~~ the system can deliver the self-expanding implantable medical endoprosthesis into a lumen of a subject.

12. (Original) The system of claim 10, wherein the at least one orifice is at least about one millimeter from the distal end of the sheath.

13. (Original) The system of claim 10, wherein the at least one orifice comprises a plurality of orifices, at least some of the orifices being at most about 100 millimeters from the distal end of the sheath.

14. (Currently Amended) The system of claim 10, wherein the self-expanding implantable medical endoprosthesis ~~capable of being disposed between the catheter and the sheath~~ is a stent or a stent-graft, the self-expanding implantable medical endoprosthesis has at least one strut with a maximum dimension, and a maximum dimension of the at least one orifice is smaller than the maximum dimension of the at least one strut.

15. (Original) The system of claim 10, wherein a maximum dimension of the at least one orifice is about 0.02 inch or less.

16. (Currently Amended) The system of claim 10, wherein the sheath includes multiple layers with at least one layer being a support material, the self-expanding implantable medical endoprosthesis ~~capable of being disposed between the catheter and the sheath~~ is a stent or a stent-graft, the self-expanding implantable medical endoprosthesis has at least one strut with a maximum dimension, and a maximum dimension of the at least one orifice in the sheath is greater than the maximum dimension of the at least one strut.

17. (Canceled)

18. (Currently Amended) The system of claim 4710, wherein the self-expanding implantable medical endoprosthesis is a stent, a stent-graft or a vena cava filter.

19. (Canceled)

20. (Withdrawn) An implantable medical endoprosthesis delivery system, comprising:
a catheter having a distal end;
a sheath having a distal end with a shaped surface, the sheath at least partially surrounding the catheter, and the catheter and the sheath being configured so that an implantable medical endoprosthesis can be disposed therebetween; and
a tip coupled to the distal end of the catheter,
wherein the tip has a surface in partial contact with the shaped surface of the distal end of the sheath so that there is fluid communication between an interior region of the sheath and an exterior region of the sheath.

21. (Withdrawn) The system of claim 20, wherein the shaped surface of the distal end of the sheath is a scalloped surface or a serrated surface.

22. (Withdrawn) The system of claim 20, wherein the implantable medical endoprosthesis capable of being disposed between the catheter and the sheath is a stent or a stent-graft, the implantable medical endoprosthesis having at least one strut with a maximum dimension, and a maximum dimension of the at least one orifice is smaller than the maximum dimension of the at least one strut.

23. (Withdrawn) The system of claim 20, the sheath includes multiple layers with at least one layer being a support material, the implantable medical endoprosthesis capable of being disposed between the catheter and the sheath is a stent having at least one strut with a maximum dimension, and a maximum dimension of the at least one orifice in the sheath is greater than the maximum dimension of the at least one strut.

24. (Withdrawn) The system of claim 20, further comprising the implantable medical endoprosthesis between the catheter and the sheath.

25. (Withdrawn) The system of claim 20, wherein the implantable medical endoprosthesis is a self-expanding implantable medical endoprosthesis or a balloon expandable implantable medical endoprosthesis.

26. (Withdrawn) An implantable medical endoprosthesis delivery system, comprising:
a catheter having a distal end;
a sheath having a distal end with a surface, the sheath at least partially surrounding the catheter, and the catheter and the sheath being configured so that an implantable medical endoprosthesis can be disposed therebetween; and
a tip coupled to the distal end of the catheter, the tip having a shaped surface in partial contact with the surface of the distal end of the sheath so that there is fluid communication between an interior region of the sheath and an exterior region of the sheath.

27. (Withdrawn) The system of claim 26, wherein the shaped surface of the tip is a scalloped surface or a serrated surface.

28. (Withdrawn) The system of claim 26, wherein the implantable medical endoprosthesis capable of being disposed between the catheter and the sheath is a stent or a stent-graft, the implantable medical endoprosthesis having at least one strut with a maximum dimension, and a maximum dimension of the at least one orifice is smaller than the maximum dimension of the at least one strut.

29. (Withdrawn) The system of claim 27, the sheath includes multiple layers with at least one layer being a support material, the implantable medical endoprosthesis capable of being disposed between the catheter and the sheath is a stent having at least one strut with a maximum dimension, and a maximum dimension of the at least one orifice in the sheath is greater than the maximum dimension of the at least one strut.

30. (Withdrawn) The system of claim 26, further comprising the implantable medical endoprosthesis between the catheter and the sheath.

31. (Withdrawn) The system of claim 30, wherein the implantable medical endoprosthesis is a self-expanding implantable medical endoprosthesis or a balloon expandable implantable medical endoprosthesis.

32. (Withdrawn) An implantable medical endoprosthesis delivery system, comprising:
a catheter having a distal end;
a sheath having a distal end with a surface, the sheath at least partially surrounding the catheter so that an implantable medical endoprosthesis can be disposed therebetween;
a tip coupled to the distal end of the catheter the tip having a surface; and

at least one slot of material disposed between the surface of the tip and the surface of the distal end of the sheath so that there is fluid communication between an interior region of the sheath and an exterior region of the sheath.

33. (Withdrawn) The system of claim 32, wherein the at least one slot of material comprises a plurality of slots of material.

34. (Withdrawn) The system of claim 32, wherein the at least one slot of material is integral with the tip.

35. (Withdrawn) The system of claim 32, wherein the at least one slot of material extends outwardly from the tip.

36. (Withdrawn) The system of claim 32, wherein the at least one slot of material is integral with the sheath.

37. (Withdrawn) The system of claim 32, wherein the at least one slot of material extends inwardly from the sheath.

38. (Withdrawn) The system of claim 32, wherein a portion of the sheath surrounds a portion of the at least one slot of material.

39. (Withdrawn) The system of claim 38, wherein the portion of the sheath is line fit to the portion of the at least one slot of material.

40. (Withdrawn) The system of claim 32, wherein the implantable medical endoprosthesis capable of being disposed between the catheter and the sheath is a stent or a stent-graft, the implantable medical endoprosthesis has at least one strut with a maximum dimension, and a

maximum dimension of the at least one orifice is smaller than the maximum dimension of the at least one strut.

41. (Withdrawn) The system of claim 32, wherein the sheath includes multiple layers with at least one layer of a mesh, wire, or braided material, the implantable medical endoprosthesis capable of being disposed between the catheter and the sheath is a stent having at least one strut with a maximum dimension, and a maximum dimension of the at least one orifice in the sheath is greater than the maximum dimension of the at least one strut.

42. (Withdrawn) The system of claim 32, further comprising the implantable medical endoprosthesis between the catheter and the sheath.

43. (Withdrawn) The system of claim 42, wherein the implantable medical endoprosthesis is a self-expanding implantable medical endoprosthesis or a balloon expandable implantable medical endoprosthesis.

44. (Original) A guide catheter having a proximal end, a distal end, and at least one orifice between the proximal and distal ends of the guide catheter, the at least one orifice being at most about 100 millimeters from the distal end of the guide catheter.

45. (Original) The system of claim 44, wherein the guide catheter includes multiple layers with at least one layer being a support material.